

ABSTRACT OF THE DISCLOSURE

Transmit signal loop-back by a wireless receiver permits a transmitting network to estimate the characteristics of downlink propagation channels between one or more network transmitters and the receiver based on the loop-back signals. Downlink channel estimates may be, for example, used by the network in transmit pre-filtering. With transmit pre-filtering, transmit signals are compensated before transmission for the effects of the downlink propagation channels to, for example, reduce interference between multiple information signals being simultaneously transmitted to a number of wireless receivers. Loop-back techniques include but are not limited to the involved wireless receivers looping back at least a portion of the signal received from the transmitting network, which may then be processed by the network to estimate downlink channels. In some cases, the receivers may estimate downlink channels and provide these estimates to the network.